CLAIMS

What is claimed is:

1. A method for forming a semiconductor structure comprising:

supplying a structure having an exposed last metalization layer;

cleaning said last metalization layer;

forming a silicide in a top portion of said last metalization layer; and

forming a terminal over said silicide.

2. The method in claim 1, wherein said last metalization layer comprises copper.

3. The method in claim 1, wherein said cleaning comprises applying one of an ammonia plasma and a hydrogen plasma to said last metalization layer.

4. The method in claim 1, wherein said forming of said silicide comprises forming said silicide in a top 10% to 20% of a thickness of said last metalization layer.

5. The method in claim 1, wherein said forming of said terminal comprises forming one of a lead and tin solder terminal electrically connected to said

silicide.

6. The method in claim 1, wherein said forming of said terminal comprises forming a silicon nitride layer physically connected to said silicide, said silicon nitride layer including an opening allowing direct electrical contact with said silicide.

7. The method in claim 6, wherein said structure includes insulating layers above said silicon nitride layer.

8. A method for forming a contact comprising:

supplying a structure having an exposed metalization layer;

cleaning said metalization layer;

forming a silicide in a top portion of said metalization layer; and

forming a connection to said silicide.

9. The method in claim 8, wherein said metalization layer comprises copper.

10. The method in claim 8, wherein said cleaning comprises applying one of an ammonia plasma and a hydrogen plasma to said metalization layer.

11. The method in claim 8, wherein said forming of said silicide comprises

forming said silicide in a top 20% of a thickness of said metalization layer.

12. The method in claim 8, wherein said forming of said terminal comprises forming one of a lead and tin solder terminal electrically connected to said silicide.

13. The method in claim 8, wherein said forming of said terminal comprises forming a silicon nitride layer physically connected to said silicide, said silicon nitride layer including an opening allowing direct electrical contact with said silicide.

14. The method in claim 13, wherein said structure includes insulating layers above said silicon nitride layer.

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15. A semiconductor device having at least two levels of interconnecting metallurgy, said semiconductor device comprising:

a first level of substantially silicide free metallurgy; and

an uppermost layer of metallurgy including a bonding pad, wherein a top of said uppermost layer comprises a silicided surface.

16. The semiconductor device in claim 15, wherein said interconnecting metallurgy comprises copper.

17. The semiconductor device in claim 15, wherein, prior to formation of said silicided surface, said uppermost layer is cleaned by applying one of an ammonia plasma and a hydrogen plasma.

18. The semiconductor device in claim 15, wherein said silicided surface comprises a top 10% to 20% of a thickness of said uppermost layer.

19. The semiconductor device in claim 15, further comprising one of a lead and tin solder terminal electrically connected to said silicided surface.

20. The semiconductor device in claim 19, further comprising a silicon nitride layer physically connected to said silicide and including an opening allowing direct electrical contact with said silicided surface.

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